

What is claimed is:

1. In an electronic device, a method, comprising the steps of:  
providing color data for a group of pixels, wherein, for each pixel in the group of  
5 pixels, the color data corresponds to a color representation in an initial palette at an  
indexed position;  
converting the color data for the group of pixels by using a converted color  
palette and for each pixel in the group of pixels substituting the color representations in  
the converted color palette at the indexed position for the color data.  
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2. The method of claim 1 further comprising the step of using a host function to  
determine the indexed position in the initial color palette for each of the pixels in the  
group of pixels.
- 15 3. The method of claim 1 wherein the initial color palette is for a (R, G, B) color  
space.
4. The method of claim 3 wherein the converted color palette is for a (C, M, Y, K)  
color space.
- 20 5. The method of claim 3 wherein the converted color palette is for a (C, M, Y)  
color space.
6. The method of claim 1 wherein the initial color palette is for a grey scale color  
25 space.
7. The method of claim 1 wherein the converted color palette is for a grey scale  
color space.
- 30 8. The method of claim 1 wherein the electronic device is a computer system.
9. The method of claim 1 wherein the electronic device is an image-reproducing  
apparatus.
10. The method of claim 1 wherein the electronic device is a copier.

11. The method of claim 1 wherein the electronic device is a printer.
12. The method of claim 1 wherein the group of pixels comprises a row of pixels.
- 5 13. In an electronic device, a method, comprising the steps of:  
providing a set of color data for pixels, said color data encoding colors for the  
pixels in a first color space;  
providing a first color palette for the first color space, wherein the first color  
10 palette holds representations of colors in the first color space in respective positions and  
wherein each of the positions has an associated index;  
for each of the pixels, determining an index for the pixel of a selected one of the  
positions in the first color palette for given areas of the representations of colors that  
correspond to the color data for the pixel;  
15 converting the first color palette into a second color palette for a second color  
space, wherein each position in the second color palette holds a representation of a color  
in the second color space that corresponds to a representation of the color in the first  
color space at a like position in the first palette; and  
converting the set of color data to encode colors in the second color space, for  
20 each pixel, by substituting the representation of color in the second palette at the  
position of the index for the pixel for the color data of the pixel.
14. The method of claim 13 wherein one of the first color space and the second color  
space is a (R, G, B) color space.
- 25 15. The method of claim 13 wherein one of the first color space and the second color  
space is a grey scale color space.
16. The method of claim 13 wherein one of the first color space and the second color  
30 space is a (C, M, Y, K) color space.
17. The method of claim 13, wherein the method is performed by a processor.

18. A device for converting color representations of a set of pixels, comprising:  
a storage facility for storing a first palette for a first color space; and  
a conversion facility for converting the set of pixels to representations in a  
second color space, said conversion facility converting the first palette for the second  
5 color space and using representations in the second palette to convert the set of pixels.
19. The device of claim 18 wherein the conversion facility is implemented by a  
processor.
- 10 20. An improved method of converting a group of pixels from a first color space to a  
second color space, comprising  
mapping color image data in the first color space to indices of an initial color  
palette array, wherein each index of the initial color palette array corresponds to a  
unique color combination in the first color space,  
15 converted the color image data mapped in the initial color palette array to an  
converted color palette array comprised of color image data in the second color space,  
reconstructing the group of pixels in the output color space.
21. The method of claim 20, further comprising a step of using a hash computer  
20 programming function to determine the indexed position in the initial color palette array  
for each of the pixels in the group of pixels.
22. The method of claim 21, wherein the indexed position of the pixels is also stored  
in a palette index array at a location in the palette index array that corresponds to a  
25 location in the group of pixels.
23. The method of claim 20 wherein the initial color palette array is for a (R, G, B)  
color space.
- 30 24. The method of claim 20 wherein the converted color palette array is for a (C, M,  
Y, K) color space.

25. The method of claim 20 wherein the converted color palette array is for a (C, M, Y) color space.

26. The method of claim 20 wherein the initial color palette array is for a grey scale  
5 color space.

27. The method of claim 20 wherein the converted color palette array is for a grey scale color space.

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